

U. S. NUCLEAR REGULATORY COMMISSION
REGION IReport No. 50-293/ 82-19Docket No. 50-293License No. DPR-35 Priority -- Category CLicensee: Boston Edison Company
800 Boylston Street
Boston, Massachusetts 02199Facility Name: Pilgrim Nuclear Power StationInspection At: Plymouth, MassachusettsInspection Conducted: June 14, 1982 - August 1, 1982

Inspectors:	<u>Jon R Johnson</u> J. Johnson, Senior Resident Inspector	<u>Aug. 12, 1982</u> date
	<u>Harold Eichenholz</u> H. Eichenholz, Resident Inspector	<u>Aug 12, 1982</u> date
	<u>Jan Johnson, Sr</u> L. Briggs, Reactor Inspector (June 29 - July 2, 1982)	<u>Aug 12, 1982</u> date
	<u>Jon R Johnson, Sr</u> D. Lipinski, Resident Inspector MS (July 21- July 22, 1982)	<u>Aug 12, 1982</u> date
Approved by:	<u>T. Elsasser</u> T. Elsasser, Chief, Reactor Projects Section No. 1B, Projects Branch No. 1	<u>Aug 12, 1982</u> date

Inspection Summary:Inspection on June 14, 1982 - August 1, 1982 (Report No. 50-293/81-19)Areas Inspected: Routine unannounced safety inspection of plant operations, including followup on previous findings, an operational safety verification, followup on events, a review of surveillance and maintenance activities, followup on IE Bulletins and Circulars, and a review of actions to implement the Performance Improvement Program. The inspection involved 248 inspector-hours by three resident and one region based inspectors.Results: Five violations and one deviation were identified: Blocking open a fire door without proper controls, Failure to evaluate fire loading prior to moving combustibles into a safety related area, Failure to translate design bases into drawings, Failure to perform an adequate safety evaluation prior to changing a station valve lineup procedure, Failure to maintain a fire door position continuously annunciated, and, Failure to perform daily checks of non-alarmed fire doors as committed to the NRC. (All discussed in Details Paragraph 3).

DETAILS1. Persons Contacted

J. Aboltin, Sr. Reactor Engineer
 G. Anderson, Watch Engineer
 W. Armstrong, Deputy Nuclear Operations Manager
 A. Caputo, Fire Prevention and Protection Engineer
 W. Deacon, Senior Electrical Engineer
 J. Dwyer, Q.C. Engineer
 B. Eldredge, Sr. HP Supervisor
 G. Fiedler, Watch Engineer
 J. Frazer, I&C Supervisor
 P. F. Giardiello, Sr. Compliance Engineer
 W. Harrington, Sr. Vice President - Nuclear
 E. Kearney, Assistant to QA Manager
 R. Kennedy, Sr. Engineer, Nuclear Operations Support Department
 R. Kuhn, Sr. ALARA Engineer
 G. LaFond, I&C Supervisor
 R. Machor, Nuclear Operations Manager (Pilgrim Station)
 P. Mastrangelo, Watch Engineer
 C. Mathis, Deputy Nuclear Operations Manager
 J. McCann, Watch Engineer
 J. McEachern, Security Supervisor
 H. O'Connor, Principle Mechanical Engineer
 L. Olivier, Watch Engineer
 E. O'Rork, Watch Engineer
 L. Oxen, Director of Nuclear Operations Review
 K. Roberts, Chief Maintenance Engineer
 R. Sherry, Maintenance Engineer
 J. Smith, I&C Supervisor
 P. Smith, Chief Technical Engineer
 R. Smith, Sr. Chemical Engineer
 K. Taylor Day Watch Engineer
 R. Trudeau, Chief Radiological Engineer
 T. Vankataraman, Project Manager - Fire Protection
 G. Whitney, Plant Engineer
 P. Willard, I&C Engineer

The inspector also interviewed other members of the health physics, operations, maintenance, security, and technical staffs.

2. Followup on Previous Inspection Findings

(Closed) Inspector Follow Item (50-293/82-12-02) Core Thermal Power Calculation, substitution of values. The inspector reviewed the licensee's guidance incorporated in Procedure 9.3, Core Thermal Power Evaluation, for value substitution should specified instruments not be available for data. This item is closed.

(Closed) Inspector Follow Item (50-293/82-16-02) ATWS Functional and Trip Unit Calibration Procedure revision. The licensee has revised Procedure 8.M.1-29, to reflect improved testing methods and appropriate use of available indication to minimize inadvertent system actuation. This item is closed.

(Closed) Inspector Follow Item (50-293/81-16-02) Replacement of reactor vessel drain line. The inspector determined that the replacement of the piping section with 316L stainless steel was required by the NRC in NUREG 0313. The NRC has reviewed and found acceptable only certain types of low carbon content stainless steels in BWR's systems subject to stress corrosion cracking. Type 316L was one of these required materials. This item is closed for record purposes, however, the inspector discussed the requirements of 10 CFR 50.59 with the licensee for other material replacements that have not had NRC review and approval.

(Open) Unresolved Item (50-293/82-10-02) Diesel generator output breaker closing time. The inspector was informed by the licensee that an analysis had been performed which concluded that the closure within 10.5 seconds was acceptable. This analysis was still in the process of engineering department management review. This item remains open pending review of the completed analysis.

(Open) Unresolved Item (50-293/77-26-04) Local leak rate testing of primary containment isolation valves (PCIV's) and penetration (8.7.1.5), and visual inspection of PCIV's one inch and smaller (8.2.3) did not identify all applicable test, vent, and drain (T, V, and D) valves. The inspector compared the two procedures with each other and the list of missing valves described in NRC report No. 50-293/82-04. Although procedure No. 8.7.1.5, Rev. 15 appeared correct, procedure No. 8.2.3, Rev. 2 had not been revised to incorporate all of the valves. The licensee stated that procedure 8.2.3 would be corrected to incorporate the appropriate T, V, and D valves. This item remains open pending a review of the revised procedure (8.2.3).

(Open) Violation Level IV (50-293/82-04-03). Test, vent, and drain (TV&D) valves were not identified on piping and instrumentation drawings (P&ID's) and system procedure valve checklists. The inspector reviewed the documents listed below to determine whether T, V, & D) valves had been incorporated into the appropriate procedure/drawing. The licensee's response dated April 2, 1982 stated that "safety system drawings (P&ID's) have been revised to indicate as-built system configuration", and that "safety system valve lineup procedures have been revised to reflect the as-built system configuration". The inspection determined that all actions were either not complete or uncorrected as noted below:

4.

- Procedure 8.7.1.5, Local Leak Rate Testing, Rev. 15; appears to have incorporated deficiencies noted in NRC Report No. 82-04.
- Procedure 8.2.3, Visual and Manual Inspection of Primary Containment Isolation Valves 1" and Smaller, Rev. 2; not revised to incorporate the T, V, & D valves identified in procedure 8.7.1.5 and NRC Report 82-04.
- Procedure 2.2.30, Reactor Building Closed Cooling Water System, Rev. 13; discrepancies noted in NRC Report 82-04 have not all been corrected - does not contain all valves listed in procedure 8.7.1.5.
- Procedure 2.2.19, Low Pressure Coolant Injection System, Rev. 15; same comment as 2.2.30, above.
- Procedure 2.2.36, Instrument Air System, Rev. 7; not revised to reflect a second header isolation valve inside containment.
- P&ID M-215 (RBCCW); does not identify T, V, & D valves noted in NRC Report 82-04 and shown in procedure 8.7.1.5.
- P&ID M-241 (RHR); Drawing Change Addition (DCA) identifies only 2 of the 6 sets of T, V, & D valves noted in NRC Report 82-04. All six sets are identified in procedure 8.7.1.5. Head spray T, V, & D valves are noted on DCA M-241.
- P&ID M-220 (Compressed Air); DCA M-220 does identify the header isolation valve missing from the valve check list of procedure 2.2.36, however, the DCA M-220 configuration does not agree with procedure 8.7.1.5.
- P&ID M-232 (Radwaste Collection) - appears in agreement with NRC Report 82-04 and procedure 8.7.1.5.

The licensee acknowledged these comments and initiated action to correct the P&ID's and valve check off lists. This item remains open pending completion of this corrective action.

3. Operational Safety Verification

A. Scope and Acceptance Criteria

The inspector observed control room operations, reviewed selected logs and records, and held discussions with control room operators. The inspector reviewed the operability (including valve positions) of the

Reactor Core Isolation Cooling (RCIC) and Standby Liquid Control (SBLC) systems and conducted system walkdowns. Tours of the turbine building, intake structure, reactor building, radwaste area, station yard, switchgear rooms, cable spreading room, auxiliary bay, CAS, SAS, and control room (daily) were conducted. The inspectors observations included a review of equipment conditions, control room annunciators, potential fire hazards, physical security, housekeeping, radiological controls, equipment control (tagging), and gaseous release rates from the station.

The inspector reviewed records of radioactive liquid discharges, and sampling of the Standby Liquid Control System boron concentration.

These reviews were performed in order to verify conformance with the facility Technical Specifications and the licensee's procedures.

B. Findings

- (1) On June 24, 1982, at approximately 9 pm, a door labeled "Fire Door Do Not Block" was observed by the inspector to be blocked open. This door (No. 153) isolates a janitors closet from the stairwell outside of the I&C and chemical labs on the 37' elevation of the Radwaste/Control Building and is part of a three hour rated fire barrier for the Control Room. Upon notification, the Watch Engineer unblocked the fire door and returned it to the closed position. Corrective action taken by the licensee on June 25, 1982, consisted of securing the door in the locked position utilizing the existing lock and having the various department heads reiterate the requirement to their personnel about not blocking open fire doors. The licensee has been unable to ascertain the amount of time that the door was in the blocked open position. The inspector was informed by a licensee representative that a recently hired employee had blocked the door open and was not familiar with the station practice. The inspector was given assurance that the individual was appropriately counselled as to station policy and practices associated with fire doors.

Station Procedure 8.B.17, Revision 0, Inspection of Fire Doors and Dampers, states in Section III that, "... breaching of a fire door or damper at PNPS requires the permission of the Watch Engineer and the establishment of a documented fire patrol."

The failure to receive the Watch Engineer's permission and establish a fire patrol prior to the breaching of a fire door is a violation (50-293/82-19-01).

In addition, the inspector noted that locking mechanism for the subject door was not functional nor was the door monitored at the time of the violation. The requirements for alarming or locking fire doors are discussed further in item 3.B(5) below.

- (2) On June 29, 1982, the inspector noticed on the 51' elevation of the Radwaste/Control Building that a door to Fan Room No. 2 was blocked open by a rubber hose (approximately 1" in diameter) connecting equipment located within and outside the room. The inspector noted that the door was labeled "Fire Door Do Not Block". Additionally, it was observed that the room was being utilized as a personnel anti-contamination clothing change area that stored significant quantities of transient combustible material.

The inspector discussed the observations with the Fire Prevention and Protection Officer, reviewed various documents and procedures and determined the following:

- Fire doors are not required on the opening to Fan Room No. 2 and the door was mislabelled.
- Fan Room No. 2 is a safety related area containing electrical cabling of safety division A, B and X, as well as equipment for the Control Room High Efficiency Air Filtration System (Tech. Spec. Required).
- The transient combustibles were moved into the room within the last few months without any evaluation being performed to keep the combustible loading within acceptable limits.

The immediate corrective action by the licensee was to have the anti-contamination clothing change area removed from Fan Room No. 2 and placed in a non-safety related area. This was verified by the inspector on June 30, 1982. Subsequently, the inspector observed that the mislabelled door to the fan room was corrected.

Station Procedure 1.4.3, Revision 10, Storage of Flammable, Combustible Materials and Transient Combustibles Control, states in Section IV.D that, "Combustibles resulting from work activity must be controlled so to keep the combustible loading within any one area within acceptable limits regarding exposures to safety related equipment, systems, and structures." The failure to properly control the movement of combustible material into Fan Room No. 2 and perform a pre-move combustible loading evaluation is a violation (50-293/82-19-02).

- (3) On June 25, 1982, the inspector performed an operational safety verification on the Reactor Core Isolation Cooling (RCIC) system that included a system walkdown in the Reactor Building on the (-)17'-6" and 2'-9" elevations of the RCIC Quadrant and the Torus Room. The inspector verified by visual observation, that accessible valves in the flow path were correctly positioned as specified in station procedures and drawings.

The following documents were utilized by the inspector in the review of the operational status of the system:

- Station Procedure 2.2.22, Rev. 14, Reactor Core Isolation Cooling
- Station Procedure 8.C.13, Rev. 7, Locked Open, Locked Closed Valve Line-up Surveillance
- P&ID, M245, RCIC System (Sheet 1)
- P&ID, M246, RCIC System (Sheet 2)

As a result of the inspectors review, the following inconsistencies were noted to exist between the various documents specified above:

- (a) Procedure 2.2.22 designates the Minimum Flow Block Valve as HO 2"/HO 1301-81. Procedure 8.C.13 designates the valve as HO 2". P&ID M245 designates the valve as 2"-19K.
- (b) Procedure 2.2.22 specifies that the Torus Room is the valve location for the HO 1301-64 Turbine Exhaust Stop and Check Valve, where as Procedure 8.C.13 indicates it's location as the S.W. Quadrant. The inspector located the valve in the Torus Room.
- (c) Procedure 2.2.22 designates the locked open 1" supply to VRV 9067 as 1301-82 and specifies it's location as the RCIC Pump area. Procedure 8.C.13 does not include this locked open valve. P&ID M245 designates the valve as 1"-19. The inspector located the valve in the RCIC mezzanine area (elev. 2'-9' S.W. Quadrant).
- (d) Procedure 2.2.22 designates the two 3/4" vent valves downstream of 1301-16 as 1301-82. This appears to be the same designation as item (c) above. P&ID M245 DCA No. 4 shows the two valves but, with no valve designation.
- (e) Procedure 2.2.22, Rev. 14, designates the Torus Dewater Valve as HO 4"/1301-80 and specifies the valve's normal position as being closed. Procedure 8.C.13, Rev. 7, designates this valve as HO 4" and specifies its position as locked closed. The Drawing Change Approval (DCA) No. 5 for P&ID M245 shows the valve as closed with no numerical designation. The inspector verified the valve to be "Locked Closed" during the system walkdown.

The inspector informed the licensee of these inconsistencies and will follow the corrections during a future inspection (50-293/82-19-03).

With regard to item (e) above, the inspector reviewed documentation associated with Plant Design Change Request (PDCR) 81-22. Section I.3, Installation Instructions, states that "Following the completion of the installation, CMG shall request NOD to chain and lock the new shut-off valve." In addition, Safety Evaluation No. 1157, dated May 21, 1981, describes a proposed design change to ... "Install a Torus Dewatering tie-in connection with check valve and locked closed isolation valve...". The basis of the safety evaluation specifies that, "The connection will also consist of a locked closed isolation valve and a blind flange connection. This modification ensures that no added leakage into the Torus Room area will result from this connection." An Off-Site Approval Form for this modification stated that, "Provisions should be made to add this valve to the valve check off list to insure that prior to start-ups this valve is locked and chained." The "Issued For Construction" P&ID M245, Rev. E2, Design Revision A, shows an open valve instead of the locked closed valve specified on the PDCR details and safety evaluation.

The failure to correctly translate the locked closed PDCR 81-22 design requirement into the "Issued for Construction" drawing M-245, Rev. E2, Design Revision A, and the DCA No. 5 As-Built Walkdown is a violation (50-293/82-19-04).

Furthermore, review into the locked-closed versus closed position requirement discrepancy between procedures 2.2.22 and 8.C.13, as well as P&ID M245, associated with the 1301-80 Torus Dewater Valve resulted in obtaining the following information:

- Procedure 8.C.13 reflected the correct requirement for the valve to be locked-closed.
- Procedure 2.2.22, up through Revision 13, which existed until May 18, 1982, reflected the correct locked-closed valve position.
- Procedure 2.2.22, Revision 14, changed the required normal valve position from locked-closed to closed.

This change specified in Procedure Change Notice (PCN) No. 5277 was approved in ORC Meeting No. 82-80 on May 19, 1982. The stated purpose of the change was to "update procedure to include valve position and sizes". The safety evaluation basis stated "does not create any unresolved safety item".

This safety evaluation does not provide the basis for the determination of whether an unreviewed safety question existed by deleting the requirement for the 1301-80 valve to be normally locked. This is a violation (50-293/82-19-05).

- (4) On July 1, 1982, the inspector discovered that Fire Door No. 4, Valve Gallery to Regeneration Corridor, in the Turbine Building, was not being monitored by the access control system. The inspector was informed by the licensee that the subject door was in the "Access Mode" and no alarms would result from door movement.

Upon notification to the licensee of the situation by the inspector, the door was taken out of the access mode and made capable of providing the required alarm on door movement. Existing records retrievable from the access control system, indicate that on June 8, 1982, the door was in the "Access Mode". The inspector was informed by a licensee representative, that the door was probably placed in the "Access Mode" in late April or early May of 1982 to facilitate painting of this door.

The inspector did not identify any other similar problems (leaving fire door alarms de-activated) following a review of the current computer printout of doors in the "Access Mode".

Station procedure No. 8.B.17, Inspection of Fire Doors and Dampers, Rev. 1, was established because of previously identified violations of fire barriers, and requires fire door No. 4 to be monitored by the access control system.

Failure to monitor the position of fire door No. 4 via alarm annunciation is a violation (50-293/82-19-06).

- (5) Following the identification of the fire door problems described above, the inspector reviewed the NRC Safety Evaluation Report (SER) dated December 31, 1978 forwarded with Amendment No. 35 to the license, DPR-35. License condition No. 3.F requires the licensee to complete several fire protection modifications and analysis according to a specified schedule. The SER, section 3.1.7, states that fire doors between individual fire areas or rooms containing equipment necessary for safe shutdown will be locked closed or electrically supervised. Section 4.12 describes fire barrier penetrations as including doorways, ducting, cable penetrations, and pipe penetrations. Furthermore, Section 4.12.1 states that when fire doors are required, the door position will be electrically supervised with alarm annunciation in a constantly manned location or the door will be locked closed.

The inspector noted that the licensee has several safety related fire doors that are not locked or monitored by alarm. Station procedure No. 8.B.17, Inspection of Fire Doors and Dampers, Rev. 0, provides a listing of safety related fire doors that are not locked

nor alarmed (weekly inspection) and a listing of safety related fire doors that are normally locked closed or alarmed (quarterly inspection). The inspector requested justification for how the licensee's system of controlling/monitoring of fire doors met the requirements of the Amendment 35 SER, or whether any deviations were approved by NRR. The licensee provided the inspector with information submitted to the NRC:NRR concerning the system for controlling/monitoring of fire doors. BECo letter to NRR No. 78-35, dated February 27, 1978, describes three categories of fire doors: 1) those equipped with access control equipment, 2) those equipped with alarm switches, and 3) those that will be under administrative control and inspected daily. Pending further review to determine the acceptability of having this third category of doors that are neither locked nor alarmed, this item is unresolved (50-293/82-19- 07).

The inspector also noted that the licensee's February 27, 1978 letter to NRR stated that this third category of fire doors (not locked and not alarmed) would be added to the Watch Engineer's daily inspection tour. The inspector noted that this had not been done, but instead, had been included in procedure No. 8.B.17 as requiring a weekly inspection. The inspector questioned the licensee concerning this commitment and the licensee immediately initiated actions to include these doors in a daily check. This is considered a Deviation (50-293/82-19- 08).

- (6) The inspector noted that the licensee's management had initiated a design change to alleviate a problem with the Reactor Water Cleanup (RWCU) sludge storage tank in the Radwaste Building. On July 14, 1982, the inspector toured the area, held discussions with control room operators, and reviewed the ORC approved procedures for testing and operating the new sludge transfer system piping from the sludge tank to the Radwaste truck lock. These procedures were observed by the inspector to be technically adequate and properly followed. Minor typographical errors were immediately corrected.

No inadequacies were identified.

4. Followup of June 11, 1982 Identification of Spent Resin

The inspectors reviewed the licensee's actions with regard to the June 11, 1982 identification of spent resin on roof tops and pavements and the NRC Confirmatory Action Letter (CAL) No. 82-19 dated June 16, 1982. No further condensate demineralizer system backwash evolutions were performed until the licensee took actions to prevent recurrence. A temporary modification was made to the vent system by blanking off the outlet of the gas scrubber to the Contaminated Exhaust System. The licensee made use of the dump valve off of the gas scrubber to vent the demineralizers/cation/storage tanks to the Reactor Building equipment sump in the HPCI quadrant.

A trial run was made with clean resin and resulted in no further increase of resin into the ventilation system. Inspections were made of the ventilation system (dampers and plenums) and removal of any previously deposited resin was performed. Procedure changes were made to ensure that backwashing evolutions were compatible with the new vent path. The licensee also initiated actions to prepare the Ultrasonic Resin Cleaner (URC) for future use in an attempt to reduce the need for some future backwashing evolutions.

On June 22, 1982, at about 12:50 pm, (while touring the condensate demineralizer area of the Turbine Building as part of a review of procedure TP-82-44, Test Program for Developing an Alternate Venting Pathway for Condensate Demineralizers) the inspector noted the existence of a resin slurry on the floor near the condensate pumps.

The inspector determined that the spill of resin was caused by a failed check valve in the condensate transfer system and allowed clean and spent resin to exit an open flow meter at panel C127 which was being cleaned as part of the URC system maintenance. No violations of equipment control tagging or radiation protection procedures were identified.

The inspector noted the existence of an out of calibration (due April 10, 1982) survey meter in the area under a table. This meter was immediately removed from the area by the licensee, and the inspector verified, through a review of radiation survey records, that the out of calibration meter had not been used following the due date.

No violations were identified during this followup. The inspectors will continue to review condensate demineralizer operations during routine inspections of the facility.

5. Surveillance Activities

A. Scope and Acceptance Criteria

The inspector reviewed the licensee's actions associated with surveillance testing in order to verify that the testing was performed in accordance with approved station procedures and the facility Technical Specifications (T.S.).

Portions of the following tests were reviewed:

- Standby Gas Treatment System (SGTS) operability test on June 21, 1982
- Core Spray (CS) pump and flow rate, and High Pressure Coolant Injection (HPCI) system operability tests on July 12, 1982
- Alternative testing required by the T.S. for HPCI system inoperability on July 21 and 26, 1982
- HPCI system auto initiation test on July 28, 1982.

No violations were identified.

6. Maintenance Activities

The inspector reviewed the licensee's actions associated with maintenance activities in order to verify that they are conducted in accordance with station procedures and the facility Technical Specifications. The inspector verified for selected items that the activity was properly authorized and that the appropriate radiological controls, equipment control tagging, and fire protection were being implemented.

The items/documents reviewed included the following:

- Maintenance Request (MR) 82-29-27; repair 'B' Salt Service Water Pump (SSW)
- MR 87-24-297; install access in ventilation duct for inspection
- MR 82-23-12; install temporary instrumentation on HPCI system
- MR 82-23-05; install Plant Design Change 81-46 - ramp generator in HPCI control system
- MR 82-23-26; adjust HPCI stop valve balance chamber
- MR 82-24-98; repair fan belt in Control Room ventilation system
- MR's 82-1396, 82-3-102; Control rod No. 22-39 directional control solenoid repairs
- MR 82-1406; 'B' Safety Relief Valve temperature instrumentation
- MR 82-4-47; air sampling system bearing repair
- MR 82-1382; continuous monitoring system trouble light repairs, and
- MR 82-29-25; 'D' SSW pump vibration repairs.

No violations were identified.

7. Followup on I.E. Bulletins and Circulars

The inspector reviewed the licensee's actions in response to the I.E. Bulletins and Circulars listed below to verify that the actions adequately addressed the concerns identified.

- IEB 79-15; Deep Draft Pump Deficiencies

This Bulletin required the licensee to provide information regarding the number, use, type and operational experience associated with deep draft pumps at the facility. The inspector reviewed the licensee's response dated September 14, 1979. This response included the complete operational history for each of the five Salt Service Water (SSW) pumps that were categorized as being applicable to the Bulletin. This history covered startup, testing and routine maintenance for the period of February, 1972 through August, 1979. In addition, for those cases where the maintenance or operating history of a particular pump indicated that the design specifications are not being met, the Bulletin required the initiation of appropriate action to demonstrate conformance to design requirements and a schedule for implementation of this action. In their response, the licensee did not identify any conditions or required action associated with design specifications not being met. Since these pumps are utilized in ECCS and RHR applications where long term cooling capability is required following a LOCA or similar event, the licensee has been implementing measures to assure pump operability. These measures have included installation of cutlass bearings, rebuilding pumps with modification kits, and installing new type bowl assemblies. The inspector observed the removal and disassembly of the 'B' SSW pump due to excessive vibration on June 15, 1982 and noted that this pump was in service from July of 1980 to present. The station has a designed spare fifth pump. T.S. require four pumps during normal operations in order to demonstrate that one containment cooling loop (two pumps per loop) is always operable in the event of a LOCA.

Notwithstanding the above, the station maintenance staff has submitted a request for engineering planning and support to investigate and recommend a replacement SSW pump design to increase the reliability and decrease the amount of maintenance effort required to rebuild the spare pump on a rotating basis.

No unacceptable conditions were identified. This Bulletin is closed, however, the reliability of the Salt Service Water system will be reviewed by the inspector during future routine inspections.

- IEB 78-12; Atypical Weld Material in Reactor Pressure Vessel Welds
This Bulletin required a record search of reactor vessel weld materials and submit a report to the NRC describing details.

The licensee responded to the Bulletin in letters No. 78-192, and 79-128 dated November 14, 1978 and June 29, 1979 respectively.

The inspector verified that the information provided to the NRC had been reviewed and found acceptable by IE headquarters, Division of Reactor Programs. No inadequacies were identified. This Bulletin is closed.

- IEB 79-23; Potential Failure of Emergency Diesel Generator Field Excitor Transformer

This Bulletin identified a problem with circulating currents between the primary winding of the excitation transformer and the generator in Electro-Motive diesel generators when both the transformer and generator neutrals were connected to a common ground.

The licensee's response dated October 29, 1979 stated that the excitation transformer was not grounded and that the diesels were of a different type (ALCo. vs Electro Motive) than those described in the Bulletin. The licensee stated that full load tests would be performed during the January-May, 1980 outage.

Full load tests of the diesel generators were completed on May 10, 1980 after three failures of the 'A' diesel generator. These failures were reported to the NRC in LER 80-17 and were not due to the problem identified in this Bulletin.

No inadequacies were identified. This Bulletin is closed.

- IEB 79-26; Boron Loss From BWR Control Blades
The Bulletin required the licensee to review the historical records of boron depletion, plans for replacement of pins with greater than 34% local depletion and results of testing.

The licensee's response dated January 4, 1980, addresses all the required concerns. No rods were predicted to have unacceptable boron loss. No replacements or additional station tests were planned. And, the licensee stated that the results of destructive tests performed by General Electric Company, and reported separately to the NRC, were applicable to Pilgrim.

No inadequacies were identified. This Bulletin is closed.

- IEB 80-03; Loss of Charcoal From Absorber Trays

This Bulletin reported loss of charcoal from Flanders Type II charcoal trays due to cell housing deformation. Licensee's were required to review their system designs for similar problems and provide a report to the NRC including the type of cells, systems affected, and test/inspection results.

The licensee's response, dated April 15, 1980, adequately addresses all the required concerns. The licensee uses Farr Co. Type NPP-1 charcoal trays that are of a welded design to preclude loss of charcoal. No loose carbon has been identified on any trays, filter housing, or downstream HEPA filters, and no housing deformation has been observed.

The inspector reviewed system operating procedures, design information provided by the Farr Co., and held discussions with the licensee's Chief Technical Engineer to verify the reported information. No inadequacies were identified. This Bulletin is closed.

- IEB 80-14; Degradation of Scram Discharge Volume Capability

Initial NRC followup of this Bulletin is documented in inspection report No. 80-30. The remaining item consisted of verifying implementation of a once-per-cycle operability test of the vent and drain valves.

The inspector reviewed the results of procedure No. 8.M.1.31, SDV Vent and Drain Timing, Rev. 1, performed on February 13, 1982. The licensee used test instrumentation and optical isolation to record the time from scram initiation to full closure of the two vent and one drain valves. The times were between about 6 to 11 seconds.

Following questioning by the inspector, the licensee reviewed the results of this test and determined that the valves closed within an acceptable 30 second time limit. A procedure change notice was submitted on July 26, 1982 to add the 30 second limit as an acceptance criteria for future once-per-cycle tests.

This Bulletin is closed.

- IEB 80-17; Failure of Control Rods to Insert During a Scram at a BWR

Previous NRC followup of actions required is documented in inspection report's No. 80-25, 80-26, 80-27, 80-28, 80-30, 81-02, 81-03, 81-07, and 81-12. Items that had been outstanding to verify were the following: 1) verify the acceptability of an alarm occurring at 2.5 inches of water in the scram discharge volume (SDV), and 2) verify the establishment of a once-per-cycle injection test to verify alarm setpoints.

The inspector reviewed procedure TP 81-07 Rev. 1 which specified in the acceptance criteria that alarms should be received prior to exceeding 3.5 inches. Geometric and volumetric calculations have been performed and show that enough free volume remains to scram with the level at 3.5 inches (memo. TCH 81-64 dated May 15, 1981).

The inspector reviewed a completed once-per-cycle injection test (TP 81-07 Rev. 1) which was performed on July 3, 1981. This test indicates that all 4 alarms came in at about 1.4 inches. An injection flow rate of 6 gpm was used.

The inspector verified that a Surveillance Test Schedule Form has been submitted to include TP 81-07 into the Master Surveillance schedule in order to ensure that continued once-per-cycle testing is performed.

The inspector also noted that station procedures continue to require NRC notification of setpoint changes, and that the licensee is continuing with plans for future installation of a second SDV instrument volume. This change is being followed by the NRC:NRR via response to the NRC's generic letter No. 81-34 and NUREG 0803.

This Bulletin is considered closed.

- IEC 79-24; Calibration of Core Spray Pipe Break Detection Equipment

The licensee proposed a setpoint change to the T.S. for the break detection alarm. On May 12, 1980, Amendment 42 changed the alarm setpoint to -1 (\pm 1.5 psid).

The inspector reviewed station procedure No. 8.M.2-2.4.1, Core Spray Header Δ P, Rev. 6, and verified that the acceptance criteria specified the correct setpoint. Setpoint changes were made in May, 1980. The inspector also reviewed the criteria specified in the daily instrument check (OPER 09). Following discussions with the Chief Technical Engineer, the licensee revised the acceptance criteria for a daily instrument check to make it more clear for control room operators.

No inadequacies were identified. This Circular is closed.

8. Response to Order for Modification of License/Performance Improvement Program

Boston Edison Company responded to the NRC's Order (dated January 18, 1982 and revised on February 16, 1982) by submitting a Performance Improvement Program dated March 18, 1982, which describes an 18-24 month program for improvements in management and oversight. The NRC:Region I tentative acceptance of this program is described in a letter from the NRC to BECo. dated April 23, 1982.

The inspector met with the licensee to review the status of selected milestones planned for completion in July, 1982. These items are described below: Item numbers refer to those described in the licensee's Performance Improvement Program dated March 18, 1982.

I.1 Revise Performance Improvement Program; On July 29, 1982, the licensee submitted a revised Performance Improvement Program (PIP) Revision 1 (BECo. letter No. 82-203). This revision results in additions and changes to the PIP submitted on March 18, 1982, and incorporates the results of the independent appraisal by the Management Analysis Company (MAC) and previous NRC Region I comments.

III.1.A Commitment Control System; The inspector reviewed documentation associated with the milestones considered complete by the licensee:

- an NRC commitment data base and reporting format has been developed
- periodic status and exception reports are issued to management, and
- the system has been expanded to include tracking QA Deficiency Reports.

The licensee is also considering expanding this system to include tracking Plant Design Change Requests. The inspector had no further questions in this area.

III.1.B Regulatory Change and Compliance - implement interim program; The licensee has implemented this program on a trial basis by assessing the NRC's TMI TAP (NUREG 0737) design requirements, and will continue with other regulatory changes. A new milestone has been established to finalize organizational and group level procedures by February, 1983. No inadequacies were identified with regard to the interim program.

- III.1.C Corrective Action Systems - implement short term improvements; The licensee has implemented the short term improvements due in July, 1982. The inspector reviewed documentation provided by the licensee which included the following: 1) a revised QA Manual Section 16, 2) the July 19, 1982 Deficiency Report (DR) status report from the DR tracking system, and 3) a copy of the QA Indoctrination and Training program. No inadequacies were identified.
- III.1.D Correspondence Review; The licensee has completed the review of correspondence relating to changes in 10 CFR 50 with the exception of Appendices G, H, and J. Milestone revisions have been made which reflect a September, 1982 completion date for these items. To date, the review has not necessitated any corrective actions by the licensee. This effort is planned to be expanded to include a similar review of correspondence regarding NRC IE Bulletins on a sampling basis. The inspector had no further questions regarding this item.
- III.2.A Safety Review and Assessment - evaluate plant design changes made without prior Commission approval to determine whether or not an unreviewed safety question was involved; The licensee performed this review in conjunction with the FSAR update process already required by 10 CFR 50.71. A separate effort was not established for re-evaluating the adequacy of safety evaluations performed in the past but to ensure that all design changes had been subjected to a 10 CFR 50.59 evaluation. This effort is described in licensee memo's S&SA No. 82-176 and 82-231. The acceptability of the licensee's efforts with regard to this item will be discussed between the NRC:Region I management and the licensee during the next scheduled meeting concerning Performance Improvement Program status.
- III.3.A Modification Management System - prepare plan to adopt for permanent use; The licensee has prepared an action plan to adopt the Startup Management System for permanent use. Implementation is scheduled for November, 1982. The revised PIP reflects additional changes in this area regarding organization and procedures and will be reviewed by NRC Region I management for acceptability.
- III.3.D Preventative Maintenance System - develop master equipment list; The licensee has established a master mechanical equipment list. The PIP milestones have been revised in this area and will be reviewed by NRC Region I management for acceptability.
- IV.1 Establish a 3-Year Training Program; The licensee has established a program to implement recommendations of MAC with milestones through 1984. These changes relate to staffing, facilities, manual changes, and the conduct of specialized training. The inspector had no further questions in this area.

The inspector determined that the licensee had met the July, 1982 milestones committed in the original (March 18, 1982) or revised (July 29, 1982) PIP. One item (III.2.A above) will be reviewed by NRC Region I management for determining whether the licensee's method of review was adequate.

9. Unresolved Items

Areas for which more information is required to determine acceptability are considered unresolved. Unresolved items are discussed in Paragraph 2, and 3.

10. Exit Interview

At periodic intervals during the course of the inspection, meetings were held with senior facility management to discuss the inspection, scope and findings.